Scientific Classification
Goal

- Group all living things by similarities they share, paying special attention to the phylogeny, so that sorting reflects our understanding of change.
Phylogeny

The development or change of a type or kind of organism
Scientific Name

• Each kind of living thing receives its own (unique) name.
• That unique name is known as a Scientific Name
Scientific Name

- Two words
- First part comes from the GENUS group
  - Always capitalized
- Second part comes from the SPECIES name
  - Always all lowercase
Why Do We Classify?
Learning and Understanding

• With several million different kinds of living things sorting them into groups is the only way to learn and understand them.
Solves common name problems

• Common name = everyday name
Useful Information

• When names were/are given useful information can be included in the name.

• Example:
  – Starfish and relatives are members of a phylum of invertebrates call ECHINODERMATA
  – Translation = Spiny (Echinos) Skin (Derma)
Latin Language
Why Latin?

• Because it is a dead language
  – Dead languages do NOT change
• Reason why learning scientific names seems like trying to learn a foreign language is because it is a foreign language
Why each country can not use its own language?

• Chat
• Katze
• Gato
How it works
Kingdom

First group

Based on major traits
Five choices p. 18 in your packet

- **Plantae** - multicellular & autotroph
- **Animalia** – multicellular & heterotroph
- **Fungi** – plantlike (lacks chlorophyll) and is a heterotroph
- **Monera** – single-celled and no nucleus
- **Protista** – single-celled & has a nucleus
Autotroph vs. Heterotroph

**Autotroph**-
— Makes its own food.
Not you making a sandwich!
Ex. A plant making its own food from sunlight.

**Heterotroph**-
  Gets it energy from other organisms.
Ex. A lion killing and eating a zebra.
Phylum

• Next group
• Below Kingdom
Class

• Next group
• Below Phylum
Order

• Next group
• Below Class
Family

• Next group
• Below Order
Genus

• Grouping with more likenesses than differences
Species

• Grouping in which members are very much alike
• Able to produce young
Human Classification
Kingdom

• Animalia
  – Multi-cellular
  – Heterotrophic
Phylum

• Chordata
  – Hollow dorsal nerve cord
  – Paired Gill Slits
  – Notochord
Class

• Mammalia
  – Nurse young
  – Hair or fur
Order

• Primate
  – Binocular vision
  – Grasping hand (opposable thumb)
Family

• Hominidae
  – More erect posture
  – Large cranium
  – Relative lack of hair
  – Less protruding jaw
Genus

• Homo
  – Thinking
Species

Sapiens
Scientific Name

• *Homo sapiens*
  —Thinking man
Species Sapien
Genus Homo
Family Hominidea
Order Mammalia
Class Primate
Phylum Chordata
Kingdom Animalia